

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT NO. : 7,243,624 B2

APPLICATION NO.: 10/522,266

ISSUE DATE : July 17, 2007

INVENTOR(S) : Steven Kenchington

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 1,

Line 67, delete "there through" and insert --therethrough--.

Column 4,

Lines 48 and 51, delete "displace able" and insert --displaceable--.

MAILING ADDRESS OF SENDER:

James W. Paul
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This collection of information is required by 37 CFR 1.322 and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief of Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450 Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORM TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner of Patents P.O. Box 1450 Alexandria, VA 22313-1450

ELECTRONIC FILING

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No. : 7,243,624 B2 Confirmation No. : 8822
Inventor : Steven Kenchington
Issued : July 17, 2007
Art Unit : 3748
Examiner : Ching Chang
Title : ELECTRICALLY OPERATED VALVE FOR CONTROLLING
FLOW OF HYDRAULIC FLUID

Docket No.: : BWT 70241
Customer No. : 24201

REQUEST FOR CERTIFICATE OF CORRECTION

Certificate of Correction Department
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The above-identified patent has been found to have the errors set forth in the enclosed Certificate of Correction. It is requested that this Certificate of Correction be issued and returned to us. Since the errors occurred in the final printing phase of the patent, no fee is enclosed. However, should the Office determine that a fee is required, please charge Deposit Account No. 06-2425.

The errors are verifiable in the patent application file as follows:

ERROR

Column 1, line 67, delete "there through" and insert --therethrough--.

Column 4, lines 48 and 51, delete "displaceable" and insert --displaceable--.

VERIFICATION

Specification, page 3, line 3. See Attachment A.

Amendment dated April 26, 2007, page 5, lines 6 and 7. See Attachment B.

We respectfully request that this Certificate of Correction be expeditiously issued since the errors reported herein were incurred through the fault of the United States Patent and Trademark Office. Attached hereto is Form PTO-1050 which is suitable for printing.

This document is being transmitted electronically.

Date: October 11, 2007

Respectfully submitted,

FULWIDER PATTON LLP

By: James W. Paul/
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Turning first to Figure 1 there can be seen an electrically operated valve 10 controlling the flow of hydraulic fluid therethrough. The valve 10 comprises a valve housing 11 having slidable therein a spool 12, 5 the spool being slidable in a spool chamber 13 provided in the valve housing 11.

A first fluid conduit 14 extends through the valve housing 11 and connects the spool chamber 13 10 with a source of pressure.

A second fluid conduit 15 extends through the valve housing 11 and connects the spool chamber 13 with a return line for returning hydraulic fluid to a 15 reservoir.

A third fluid conduit 16 connects the valve 10 to whatever apparatus receives the flow of hydraulic fluid controlled by the valve 10. 20

In Figure 1 there can be seen two opposed springs 17 and 18 which together act to centre a spool 12. When the spool 12 is centred both springs will still be compressed and will still each apply a force on the spool 12, but the forces applied by the two springs 17 25 and 18 will be equal and opposite.

Two electric coils 19 and 20 surround the ends of the spool 12. Surrounding each end of the spool 12 30 there is provided armature 21 and 22.

The spool 12 is surrounded by a sleeve 23. This sleeve 23 has two annular end surfaces 24 and 25. The annular end surface 24 faces an annular end surface 26 35 of the armature 21. The annular surface 25 faces an

the electronic controller uses the position signal to generate an error signal used in and thereby provides a closed loop control [[of]] system for the actuator.

Claims 9-10 (Cancelled)

Claim 11 (Previously presented) An electrically operated valve as claimed in claim 2 wherein the spool has mounted thereon an armature surrounding the first end of the spool and displaceable within the first electric coil and the spool has mounted thereon an armature surrounding the second end of the spool and displaceable within the second electric coil.

Claim 12 (Previously presented) A method of operating the electrically operated valve claimed in claim 2, the method comprising:

selecting between the first and second coils and activating the first electric coil when pressurised fluid is to be relayed on to the apparatus using the hydraulic fluid flow and activating the second electric coil when fluid is to be returned from the apparatus using the hydraulic fluid flow back to the reservoir; and

controlling the current through and/or voltage across each electric coil when activated in order to control rate of flow of fluid through the valve.

Claim 13 (Previously presented) An engine valve operating system comprising:

an actuator which acts on an engine valve and can be extended to open the engine valve and retracted to allow the engine valve to close under the action of an engine valve spring;